



## Result Page

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The invention relates to a travel writer with a drawer, as well as in which the centering and taking along means for as record carriers serving the recording disks journaled and with which inserted recording disks between a registration and an input/a withdrawal position are more movable with means, which permit an exact aligning and a locking of the drawer in the registration position.

Travel writers with a thrust or a swiveling drawer for the transportation of recording disks between the inserting/removal position and the registration position offer the advantage of a larger organization liberty in the comparison with such with an opening by hinges lid due to the smaller, rectangular front surface regarding the arrangement of the instruments of an instrument panel. Opposite travel writers with automatic introduction of recording disks ready for input by a slit, those for their part in particular which the space requirement of the appliance and/or the instrument panel concerns the best solution represent, offer would generic in accordance with-eat construction the advantage of the smaller susceptibility to interference due to climatically conditional changes of the recording disks as well as to a large extent reduced technical expenditure by renouncement of an automatic introduction and ejection of the recording disks.

In contrast to this it is required with a drawer that it is light movable, i.e. that for the guidance means of the drawer relative large tolerances provided to become to have. This contradicts the requirement that during registering positioning free from play and a always reproducible of the drawer given must be and vibrations of the drawer excluded and/or regarding the recordings ineffective are.

The object of the instant invention was to be planned it thus in a travel writer with a drawer as carriers for the recording disks and their drive means means, which permit an exact aligning and a locking of the drawer in the registration position, whereby the means are producible mass production-fairly designed and with if possible small effort.

The solution of the object describes the claim 1. Advantageous embodiments of the invention come out from the Unteransprüchen.

As advantage of the found solution it is to be emphasized that as rocker stored, u-shaped designed bridge a provided is, regarding the side walls and the front wall quaderförmigen housing of the travel writer essentially designed is format-filling and thus little building area stressed. The bridge is in such a manner designed that their limbs rectangular to the rotational axis of the bridge, which is preferably is rigid designed by means of two in the turningoh-planar bending spring joints free from play realized, and exhibits toward the rotational axis a certain suspension ability. This design offers the prerequisite for it that the fixing taps in the drawer the dimensions of the fixing taps corresponding reductions associated can to become to be able, i.e. by means of an isometric over regulation, mounted at the limbs of the bridge, a spanning toward the rotational axis manufactured become conscious, by which guaranteed is that both limbs of the bridge at the fixation of the drawer are involved.

It is furthermore worth mentioning that the fixing taps and the associated reductions are such a conical designed that in such a way created wedge connection works in cooperation with the layer of the rotational axis regarding a withdrawal of the drawer selflocking, i.e., it is in suitable way a controlled unblocking procedure required, in order to release the closed drawer to open. In addition of advantage in particular which recording security concerned is that fixing taps drawer in such a manner associated are that it in plane lie, which cuts the plane, in which the tips of the registration organs move. In order to relieve on the one hand the bending springs of the articulations of the bridge in the closed condition of the drawer to let on the other hand a relative high arranging and bolting device strength become effective are preferably two spring clips provided attacking at the limbs of the bridge, which when closing the drawer due to the inclined planes easy tensioned associated at the drawer planned the fixing tap to become to be able.

With in the following the described embodiment the bending spring joints of the bridge at a mounting plate planned in the travel writer are fixed. However the also possible attachment of the bending spring joints and the storages for the spring clips immediate at the side walls of the housing of the travel writer is to be made.

Fig. 1 a front view of a travel writer equipped with a drawer as carriers for the recording disks,

Fig. 2 a plan view of only housing and drawer of the travel writer in accordance with Fig. 1, thought as summary presentation. 1 as well as a blank die to the representation of one of the drawer associated Auswerffeder,

Fig. 3 a perspective view, an essential element of the invention formed bridge,

Fig. 4 a plan view of a mounting plate insertable as assembly into the travel writer, is fixed on which only aligning and locking the drawer serving bridge,

Fig. 5 a schematic representation with the latch of the drawer, cooperative components and assemblies,

Fig. 6 a cutout enlargement in accordance with the section B in Fig. 5 cams serving with a view the unblocking for the opening of the drawer.

In Fig. 1 is with 1 the quaderförmige housing of the travel writer designated selected as embodiment, at whose front wall 2 a window cutout 3 for the front wall 2 an associated display 4 designed is, the front diaphragm of a drawer 6 led in the housing 1 represents 5. From in the front wall 2 stored keys 7, 8, 9, 10, 11 and 12 are the keys 7 and 8 as well as the key 9 the driver and/or the front seat passenger designated as menu key for selecting at least the most important work time data associated. The keys 10 and 11 serve the pre and paging down in the data sets selected in each case, the key 12 are for unlocking and releasing the drawer 6 provided. By means of a Plombe designated with 13 the entrance to a diagnostic socket is secured. For the sake of completeness is mentioned that, which also from the Fig. 2 apparent is, which is represented travel writers as installed equipment designed. Is corresponding 15 fixed at the rear wall 14 of the housing 1 in as threaded bush or threaded shaft of designed arranging taps. With 16 is the rear wall 14 likewise associated plug base designated.

Furthermore the Fig leaves itself. 2 take that at the not more near designated side walls of the housing 1 of the drawer 6 associated guide rails, of those in Fig. 2 a shown and with 17 designated is, fixed is. With 18 a recording disk inserted into the travel writer is designated, which carries a Stundenscale 19, with whose representation otherwise however without numerals and the conventional network to the interpretation of the recordings was for the sake of simplicity done. The recording disk 18 is 20 received on designed a out of round centering and taking along thorn, which at a not represented support formed is, which becomes time-proper driven of a drive assembly accommodated in the drawer 6.

It is for the sake of completeness still pointed out that the travel writer for the pick of two recording disks located in a certain distance is equipped one above the other. In Fig. 2 is this purpose serving, between which both recording disks pivotable disposed plate 21 shown, on lateral cheeks the 22, 23 away of the drawer 6 pushes and as registration document serves the located above recording disk 18. In the ground 26 of the drawer 6 an opening is 27 provided, so that the recording disks can be better seized with the removal. With 24 and 25 6 formed approaches are designated at the drawer, into which guide slots 28 and 29 designed are. That is, the approaches serve the situation adjustment of the front portion of the drawer 6, if these closed is. With closed drawer 6 a Auswerffeder designed stored in the housing 1 as spring clip affects 30 the drawer 6. A limb 31 the Auswerffeder 30 intervenes in a groove 32 designed at the reverse side of the drawer 6. With 33 and 34 at the ground 35 of the housing 1 fixed stop pin 36 and a bearing journal 37 are the Auswerffeder 30 drawer-laterally associated clearance recesses designated. With 38 and 39 are to tailliert designed drawer 6 formed with appropriate slits - in Fig. 5 is a shown and with 40 designated - provided Führungsbacken designated. At the Führungsbacken 38, 39 is inclined planes 41 and 42 designed and these conical reductions 43 and 44 associated.

Into these reach, if the drawer is 6 closed likewise conical designed fixing taps 45 and 46, which are 49 fixed at the ends of the limbs 47 and 48 of an u-shaped designed bridge, in. The perspective view of the bridge 49 (Fig. 3) it shows that the limbs 47, 48 as well as the yoke 50 of the bridge are 49 by break formed strips 51, 52 and 53 reinforced and hitting a corner links 54 and 55 connected with one another attacking over relative long lengths. In this way the bridge 49 represents a component of high stiffness with smallest space requirement. Only the ends of the limbs 47 and 48, at which carries 56 and 57 the fixing taps fixed angebogenen on is, offer a certain suspension ability toward the rotational axis of the bridge 49. Bei the present embodiment designed as rocker become the rotational axis by means of two bending spring joints 58 and 59, whose leaf springs are 60 and 61 for example 49 consoles 62 and 63 on the other hand on a mounting plate 64 fixed formed by means of not more near designated screws on the one hand on at the bridge, realized. With 65 is formed a lobe designated, which, at the yoke 50 of the bridge 49, which subsequent still more near explained becomes, cooperates for unlocking the drawer 6 with a cam 66. A slot shaped opening 67 serves the passage the cam 66, of a supporting shaft represented in the subsequent figs by the yoke 50. Other designated openings planned in the hitting a corner links do not serve likewise reaching through on the mounting plate 64 disposed, however not invention-relevant Bauelementen. In the limbs 47 and 48 of the bridge of 49 designed incisions 68 and 69 are for hanging up in each case a limb 70 and/or 71 as clockwork mechanisms serving and on the mounting plate 64 stored spring clips 72 and 73 provided.

As from the plan view, Fig. 4, apparent is, is the leaf springs 60 and 61 of the bending spring joints 58, 59 of the bridge 49 on the mounting plate 64 fixed and the limbs 47, 48 of the bridge 49 reaches through by side the mounting plate 64 appropriate cutouts 74 and 75 on the opposite side. With 76 and 77 the spring clips 72, 73 associated bearing journals are designated, which are in Outsertechnik at the mounting plate 64 formed. In addition are in Fig. 4 likewise 64 stoppers 78 and 79 shown formed at the mounting plate. These have to limit the object the pivoting angle of the bridge 49 with opened drawer and the bending field joints 58 to relieve 59. The stoppers 78, 79 with the hitting a corner links 54, 55 of the bridge 49 cooperate. In this place is mentioned that at the mounting plate 64 a variety of

holding and fasteners as well as bearings for various devices and function groups of the travel writer in particular such, which serve registering in Outserttechnik formed are. There these elements invention-substantial are not are it the clarity half not shown. This applies also to the engine and the downstream required torque because of high the transmission, which propel the already mentioned shaft 80. By means of the arrow P only the force river of the transmission directed on a gear wheel 81 fixed on the shaft 80 should be symbolic shown. In addition the shaft 80 carries the already mentioned cam 66 and a cam 82. They are on the one hand in a bearing block formed at the mounting plate 64 83 on the other hand 84 journaled in a sleeve. The latter is in an end wall angebogenen at the mounting plate 64 85 fixed. For the sake of completeness are still mentioned that the preassembled mounting plate is more insertable 64 as function-finished assembly into the travel writer, whereby at the side walls of the travel writer mounted strips serve as support. The resting upon marginal areas of the mounting plate are 64, like the Fig. 4 shows, by appropriate free dancing for example 86 or 87 for a support of several characters and thus unique designed.

The schematic representation, Fig. , the mutual association of drawer 6 and mounting plate 64 and/or the association essentially points 5 on the mounting plate 64 disposed, a catcher 88 illustrative means to aligning and locking the drawer 6. A blank die is essentially to the representation of the Auswerfmittel made and the corresponding portion of the housing 1 of the drawer 6 associated at that as side view represented drawer 6. The mounting plate 64 and the catcher 88 mounted on it are as section in accordance with the cut line AA in Fig. 4 shown. With 89 is the substantial electronic components of the travel writer a supporting circuit board designated. A switch 90 disposed on the circuit board 89 cooperates with the cam 82, which subsequent still more near explained becomes.

The Fig. 5 shows in accordance with the movement arrow the assemblies in the state of closing the drawer 6. That is, the limb 31 the Auswerffeder 30 intervenes in the groove 32, the Auswerffeder 30 becomes tensioned. Simultaneous ones slide the fixing taps 45, 46 on the inclined planes 41, 42 of the Führungsbacken 38, 39 of the drawer 6, upward, whereby the bridge 49 becomes 73 pivoted against the effect strength of the spring clips 72. If the fixing taps 45, 46 reach the reductions 43, 44, the bridge 49 tilts back, i.e. the drawer 6 becomes 73 held by means of the effect strength of the spring clips 72, and is, like already introductory explained, by the selflocking design of the cooperative components locked.

If the drawer is to become 6 opened, then is by operation of the key 12 first a drive the shaft 80 of propelling drive assembly required. The rotation of the shaft 80 and on their fixed cam 66 those for their part, at which lobe 65 attacks, effected swivelling of the bridge 49 in the sense of digging the fixing taps 45, 46 from the reductions 43, 44 and thus unlocking the drawer 6, which is pushed by the then effective becoming Auswerffeder 30 into a grab position. The unblocking procedure is completed, if the shaft 80 is after a revolution again in the home position, i.e., which has fixed cam 82 the switch 90 operated on the shaft 80. This position shows also the enlarged cutout representation Fig. 6.



## Result Page

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1. Travel writer with a drawer, as well as in which the centering and taking along means for as record carriers serving the recording disks journaled and with which inserted recording disks between a registration and an input/a withdrawal position are more movable with means, which permit an exact aligning and a locking of the drawer in the registration position, thus characterized, that the means (88) cover one for aligning and locking the drawer (6) transverse to the guide of the drawer (6) pivotable bridge (49), that is fixed at the bridge (49) in a plane parallel to their rotational axis fixing tap (45, 46), that the bridge (49) is in the travel writer in such a manner journaled that the fixing taps (45, 46) always in the movement motion of the drawer (6) engage, that in the drawer (6) the fixing tap (45, 46) associated reductions (43, 44) are designed and that to the Ineingriffbringen of the fixing taps (45, 46) with the reductions (43, 44) when pushing over the drawer (6), the drawer (6) is provided with the fixing taps (45, 46) associated inclined planes (41, 42).
2. Travel writers according to claim 1, characterised in that the fixing taps (45, 46) conical designed and the reductions (43, 44) in the drawer (6) the fixing tap (45, 46) corresponding conical formed are.
3. Travel writers according to claim 2, characterised in that the front surfaces of the fixing taps (45, 46) spherically designed are.
4. Travel writer according to claim 1, characterised in that the bridge (49) by means of a bending spring joint in the housing (1) of the travel writer pivotably mounted is.
5. Fahrtschreiber according to claim 1, characterized thus, that the bridge (49) u-shaped designed is and that the fixing taps (45, 46) at the ends of the limbs (47, 48) of the bridge (49) are mounted.
6. Travel writers according to claim 1, characterised in that the layer of the rotational axis of the bridge (49) and the conicity of the fixing taps (45, 46) and these associated reductions (43, 44) in such a manner selected are that with the withdrawal of the drawer (6) an automatic locking between the bridge (49) and the drawer (6) made.
7. Travel writer according to claim 5, characterised in that the bridge (49) as rocker designed is, at that on the one hand the fixing taps (65, 66) disposed is and on the other hand means for unlocking the drawer (6) engage.
8. Fahrtschreiber according to claim 7, characterised in that the bridge (49) at a mounting plate (64) of the travel writer journaled is and the limbs (47, 48) of the bridge (49) such a angled designed is that they reach side through appropriate cutouts (74, 75) in the mounting plate (64) of the mounting plate (64) on the other side of the mounting plate (64).
9. Travel writer according to claim 7, characterized thus, that each limb (47, 48) of the bridge (49) a bending spring joint (58, 59) is associated and that an additional clockwork mechanism for the force required for aligning and locking the drawer (6) is provided.
10. Travel writers according to claim 9, characterised in that as additional clockwork mechanism two preferably in the transition area of the limbs (47, 48) and the yoke (50) of the bridge (49) attacking spring clips (72, 73) provided are.
11. Travel writer according to claim 5, characterised in that the bridge (49) regarding the side walls and the front wall of the quaderförmigen housing (1) of the travel writer designed is format-filling to a large extent.